TECHNICAL REVIEW COMMENTS
on the Environmental Impact Statement

Potash One
Legacy Project

Bethune, Saskatchewan

Prepared by
Saskatchewan Ministry of Environment
Environmental Assessment Branch
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Preface

This document is provided by the Environmental Assessment Branch of Saskatchewan Ministry of Environment as supporting information for the public review of Potash One's Environmental Impact Statement for their proposed new solution potash mine near Bethune, Saskatchewan.

This document has four major parts:

The first part provides an overview of the provincial environmental assessment and review process. It outlines the events and activities that led to the Environmental Impact Statement being released for public review and describes how the public can provide comments to the Minister of Saskatchewan's Ministry of Environment on Potash One's proposed potash mine.

The second part provides a brief summary of the development being proposed. This summary is intended to provide information to assist the reader in deciding whether they are interested in finding out more about the proposed development. It is not intended to be a full representation of the development. Interested readers should visit a review centre (see section 2 of this document for locations) to read the Environmental Impact Statement.

The third section of the document provides the Ministry of Environment's evaluation of the Proponent's conclusions regarding the predicted impacts of the proposed project, the effectiveness of any identified mitigative measures and any follow-up requirements that would be placed on the Proponent by the Minister, should the project be approved.

Section 4 presents the conclusions reached by the Ministry of Environment and again invites the public to comment. The Minister when making the final decision regarding the environmental acceptability of the proposed project considers both the public's comments and technical review comments.

1. Environmental Assessment and Review Process

Introduction

The Environmental Assessment Act (the Act) in Saskatchewan requires the Proponents of a "development" to conduct an Environmental Impact Assessment (EIA). The EIA provides the information needed by the Minister responsible for the Act (Minister of Environment) to determine whether, from an environmental perspective, a proposed development should be allowed to proceed and, if so, under what conditions. As part of the environmental assessment process, the Proponent is required to prepare an Environmental Impact Statement (EIS) that documents the developer's conclusions about the potential environmental effects of the proposed project. The EIS also describes the measures the Proponent plans to take to reduce negative and enhance positive environmental impacts. Once completed, the EIS undergoes both a technical and public review prior to a decision being made by the Minister regarding the project.

The EA review process provides a broad understanding of the potential impacts and ways to minimize the impacts of a project.

The purpose of the environmental assessment and review process is to ensure that adequate environmental safeguards are in place before a development is allowed to proceed and that developments proceed in a manner understood and broadly accepted by the public. These safeguards may arise out of the actual design and nature of the proposed development or, should the development receive approval under the Act, as a result of ongoing regulatory involvement by government agencies.

For the current development, the primary environmental regulatory legislation for potash mines following The Environmental Assessment Act includes The Environmental Management and Protection Act, 2002 and regulations (The Mineral Industry Environmental Protection Regulations; The Water Regulations, 2002; Municipal Refuse Management Regulations; Hazardous Substances and Waste Dangerous Goods Regulations). Other federal and provincial agencies also have legislation and regulations that may be applicable.

Submission of the EIS

In September 2009, Environmental Assessment Branch (EAB) received a project proposal from Potash One for the proposed Legacy Project potash mine. Following technical review the project was declared a development under Section 2(d) of the Act and Potash One was asked to submit an EIS for the development. EAB worked with the Proponent to develop project specific guidelines to help guide the development of their EIS. These guidelines were finalized in February 2010.

Potash One prepared a draft EIS and submitted it to EAB in February 2010. The EIS was sent for technical review to provincial agencies and the Government of Canada.

Technical Review

Technical review provides the government perspective on the proposed development.

The EIS was reviewed by provincial and federal agencies to ensure that any potential environmental issues (including biophysical, social and economic) had been identified and adequately dealt with. During this review additional technical information was requested from Potash One. A revised EIS containing the requested information was received in July 2010 and upon further review was judged by the reviewers to contain adequate information to proceed with public review.

The Final Technical Review Comments that you are reading have been prepared to assist the public and government decision-makers in their review of the EIS. The comments, starting on page 7, represent a summary of the provincial and federal government's evaluation of Potash One's EIS.

In preparing technical review comments, the Ministry of Environment focuses on those factors that are considered to be of primary significance with respect to the proposed development and its environment.

Public Review

Public comment is invited on Potash One's EIS for a period ending Friday, October 15, 2010.

The EIS, along with these Final Technical Review Comments, are being made available to the public for review at public libraries in Saskatoon and Regina; the University libraries in Saskatoon and Regina; the Legislative Library in Regina; the offices of the Village of Bethune, Town of Lumsden and R.M. of Dufferin; and the Environmental Assessment Branch office in Regina.

The public review period will **end on Friday, October 15, 2010.** The public is invited to provide comments on the EIS by submitting them to Saskatchewan Environment **no later than Friday, October 15, 2010** to the following address:

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Email: ann.riemer@gov.sk.ca
Please ensure mailed comments are postmarked no later than **Friday, October 15, 2010.**

Ministerial Decision

The Minister considers both the public and technical review comments when making a decision.

Information generated during the public and technical reviews of the EIS will be submitted to the Minister of Saskatchewan Ministry of Environment for consideration. The Minister, under section 15 of The Environmental Assessment Act, may give Ministerial Approval to proceed with the development, with any terms and conditions that the Minister considers necessary or advisable, or the Minister may refuse to approve the development as proposed and will provide reasons for the decision.

2. Summary of Proposed Project

Information in this section is taken from Potash One's EIS and is neither comprehensive nor inclusive of the information contained in that document. Please refer to the Executive Summary and body of the EIS for more complete information.

Potash One is a TSX-listed Canadian resource company which started its potash ventures in 2006. The company is headquartered in British Columbia with the Legacy Project office located in Saskatoon, Saskatchewan.

The proposed Legacy Project mine would be located in the R.M. of Dufferin approximately 80 km northwest of Regina near the communities of Bethune and Findlater. The proposed solution potash mine includes well pads and pipelines for injecting, extracting and transporting brine; underground caverns; surface infrastructure (offices, mill, shipping, storage and staff facilities, waste treatment, roads and rail beds) and tailings management areas.

The site proposed for the mine is predominantly cultivated land with some native upland and wetland habitats. The ultimate footprint of the mine including the well field and tailings areas is approximately 87 square km (8,700 hectares).

Alternatives Considered

A number of alternatives were considered relative to site location; mining and processing methods; tailings management; water, energy and electrical sources; sewage treatment; rail spurs; and storage and load out locations. Analyses of these alternatives are presented in the relevant sections of the EIS.

In particular, alternative site locations were evaluated for the mine and tailings management area (EIS Section 2.2.1). The preferred location presented in the EIS is based on geological, engineering, environmental, and social criteria. In addition, the following specific criteria were utilized in the site selection process: the site location was limited to the north side of the Qu'Appelle Valley and provide a minimum 1.6 km buffer from the top of the valley; the site needed

to be within 5 km of the indicated potash resource; the site needed to be approximately 10.3 square km in size; the site should not overlay the existing pipeline corridor; and the majority of the site should be located on cultivated land to reduce disruption to native grassland and wetland habitats.

Social, Cultural and Economic Impacts Considered

Potash One undertook technical screening and meetings with government, the public, First Nations and Métis to identify the key components of the environment (including biophysical, social and economic components) that should be protected (valued environmental components).

The proposed mine site has undergone a heritage resource impact assessment for the core area and no resources were found. Additional assessments will be undertaken prior to development of any utility, pipeline or transportation corridors as well as well pads in the well field area.

The proposed development is anticipated to have a number of socio-economic effects. The majority of effects will be positive in terms of job, training, and business opportunities. Some of the negative effects considered are loss of agricultural land, noise, increased traffic, visual aesthetics of the tailings pile, and ground subsidence. Potash One intends to support communities in the local study area through a community investment program that will help to offset any additional pressures on community infrastructure and services.

Biophysical Impacts Considered

The Proponent evaluated the possible impact of the proposed Legacy mine on these environmental components, the possible mitigation measures that could be employed to eliminate or mitigate (reduce) the impacts, and any residual effects that might remain after the mitigation is in place.

In particular, the Proponent has examined the potential effects of the development on noise, air quality, groundwater, surface water, soils, vegetation, wildlife, and wetlands. Analyses for each of these components can be found in the relevant sections of the EIS and are summarized in Section 14.0 of the EIS. In addition, commitments made by the Proponent to address impacts on valued environmental components can be found in Table 13-1 in Section 13 of the EIS.

Public, First Nations and Métis Engagement Feedback and Response

Section 4.0 of the EIS provides details on Potash One's engagement with the public, First Nations, Métis and stakeholders. Table 4.3-8 provides a list of questions and concerns raised during the engagement process and Potash One's response to those questions.

3. Technical Review Comments

Introduction

The intent of the technical review step of the environmental assessment and review process is to give provincial and federal specialists/agencies an opportunity to examine the EIS to:

- Develop their opinions about how adequately the environmental issues related to the development have been dealt with; and
- Determine whether the information provided is sufficiently complete and technically accurate enough to support the public review phase of the process.

Release of the EIS for public review should not be interpreted as absolute agreement with all items within the EIS, but simply that the issues remaining can be handled through ongoing regulatory relationships or terms and conditions that might flow from a decision made pursuant to The Environmental Assessment Act that would modify the "development" to make it acceptable to the technical reviewers.

In general, the Proponent has addressed in the revised EIS most of the issues raised during review of the initial EIS submission. As is customary, additional project details will be provided at the time of licencing should the development receive EA approval. Additional comments were provided by technical reviewers after review of the revised EIS and are summarized in the following sections.

Biophysical Considerations

Ground and Surface Water

Potash One does not anticipate any impact to groundwater due construction, operation or decommissioning of the mine; however ongoing monitoring will be used to assess the need for additional safeguards beyond those presented in the EIS. Reviewers agree with the EIS's findings that the proposed system of perimeter dykes, cutoff walls and recovery wells will be effective in minimizing

any impacts to existing ground water resources. As the detailed brine management and monitoring plan is developed during licencing care should be taken to ensure that the monitoring is designed, both in space and time, in such a way as to allow verification of the assumptions and predictions of the solute transport model.

Reviewers at the Saskatchewan Watershed Authority (SWA) have identified the potential for surface erosion due to subsidence as an issue requiring further mitigation. The Proponent is expected to monitor the location and gradient of all streams and the size, shape and location of all wetlands in the subsidence impact zone. The baseline values (numerical data, maps, photos, etc.) should be archived for future reference. In consultation with and with approval from SWA, the Proponent may over time be required to proactively manage the change in drainages to prevent erosion. The management options may include progressive construction of lower channels or construction of wetlands with control facilities. Either option would require land controls and approvals.

Potash One is encouraged to continue to explore technologies for reducing fresh water consumption. Not only would these measures reduce water use they would also reduce the amount of brine sent to the tailings management area and injected into deep formations.

Saskatchewan Watershed Authority has requested a copy of any freshwater runoff diversion plan once that plan has been finalized.

Soils

Reviewers agree with the Proponent's suggestion that permanent soil monitoring stations be established around the mine site, taking into consideration the prevailing winds, so that potential impacts of air and dust emissions can be evaluated.

The Proponent has revised the EIS such that there is a commitment to stockpile suitable top soil from all areas where infrastructure construction or other activities are to take place. Reviewers would like to see a specific reference to the tailings management area in the commitment to stockpile all suitable soil. Should the mine be approved, the Minister may include in the terms and conditions a reference to stockpiling all suitable top soil including that from within the tailings management area.

Wetlands

As much as 104.3 hectares of wetlands and other water bodies may be impacted by the Legacy Project at the mine's maximum point of development. Due to the importance of wetlands to wildlife and water processes, reviewers agree that mitigation for the loss of these wetlands in the form of construction of new

wetlands or enhancement of existing ones is necessary. Potash One has committed to work with the province and other experts to develop a no-net-loss conservation/compensation plan for the wetlands that will be impacted.

Grasslands

At maximum project development, 460 hectares of native grassland may be impacted. Reviewers agree with the conservation/compensation approach committed to in the EIS. Potash One has committed to work with the province and other experts to develop a no-net-loss conservation/compensation plan for native grasslands that will be impacted.

Subsidence

The Proponent has modeled the predicted impact of subsidence on the landscape and although local changes in water flow will occur over time, significant regional changes are not anticipated. Given that modeling has predicted a gradual drop of as much as 6.7 metres in elevation in some areas, reviewers have suggested that ongoing studies should be carried out in the future by the potash industry and others to assess the potential impact of subsidence on linear structures (e.g., gas lines, railroads and highways) and on surface and ground water flow. In addition, reviewers support Potash One's commitment to carry out future monitoring and research on subsidence and to establish a stakeholder advisory committee to assist Potash One in managing its response to any future changes resulting from subsidence.

Tailings Management Area

The Proponent has proposed using natural containment to limit vertical brine migration under the tailings management area (TMA) based on site characterization studies. Engineered containment systems will augment this system to control lateral brine migration based on a number of factors (EIS Section 2.2.3.2). Reviewers have, however, requested a more complete analysis of the performance of a compacted clay liner as opposed to the proposed method of natural containment. Results of the analysis have been provided to the Ministry of Environment indicating that a compacted clay liner would have a small effect in delaying the arrival of the brine plume at a receptor compared to the baseline predictions provided in appendix 7.1 of the EIS. Thus, the proposed engineered containment measures would still be required. Consequently, it has been determined by the Proponent that the compacted clay liner has no additional environmental benefit over the life of the project. The reviewers agree with the Proponent's evaluation and conclusion.

Reviewers requested additional comment and information regarding the length of time required to decommission the tailings pile. The Proponent has responded with additional information including a commitment to undertake

future research into technologies and methodologies for reducing the amount of tailings brought to the surface and the time necessary to eliminate those that do make it to the surface (EIS Section 3.13.4.3).

Heritage Resources

A Heritage Resources Impact Assessment was conducted for the study area and one archaeological resource site was found. However, as the identified site will not be disturbed Heritage Resources Branch has no further concerns.

Additional Requirements

Additional comments and advice offered by reviewers follows:

- Pursuant to The Planning and Development Act, 2007 any subdivision of land will require approval from Community Planning Branch of Municipal Affairs.
- A development permit is required from the Rural Municipality prior to development of the site.
- Ministry of Environment will regulate the drinking water and related wastewater treatment processes used at the mine/mill. Application forms for the construction of a waterworks or sewage works are available at: http://www.saskh2o.ca/PDF/EPB226ApplPermitConstructOperateWaterworks.doc

4. Conclusion

The Saskatchewan Environmental Assessment Review Panel (technical reviewers) and Saskatchewan Ministry of Environment conclude that Potash One has undertaken sufficient studies and provided adequate information about the proposed Legacy Project solution potash mine such that the EIS can be made available for public review.

The main concerns/issues identified during the technical review related to:

- Waste brine management and potential effects on water sources;
- Potential impacts of subsidence on linear features and water flow patterns;
- Fresh water use; and
- Loss of wetlands.

Invitation to Comment

The public is invited to review Potash One's EIS and the Technical Review Comments and to provide their comments, no later than **Friday, October 15, 2010** regarding the EIS.

Again, the EIS along with these Final Technical Review Comments, are being made available to the public for review at public libraries in Saskatoon and Regina; the University libraries in Saskatoon and Regina; the Legislative Library in Regina; the offices of the Village of Bethune and Town of Lumsden and the R.M. of Dufferin and the Environmental Assessment Branch office in Regina; or it can be accessed on the internet at:

www.environment.gov.sk.ca/programs-services and then by following the links **Environmental Assessment/Notices/Section 11**

The comments received during the public review of the EIS along with the technical review comments will be considered by the Minister of Environment when he makes his decision (under section 15(1) of The Environmental Assessment Act) to either:

(a) give ministerial approval to proceed with the development and impose any terms and conditions that he considers necessary or advisable; or
(b) refuse to approve the development.

Contact

For more information, please contact:

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